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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOHN PAUL MAYE and DAVID BEDDIE

Appeal 2011-013124
Application 09/520,004
Technology Center 1700

Before BRADLEY R. GARRIS, CHARLES F. WARREN, and
MICHAEL P. COLAIANNI, *Administrative Patent Judges*.

GARRIS, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 from the Examiner's decision rejecting claim 2-18, 20, and 21. We have jurisdiction under 35 U.S.C. § 6.

We AFFIRM.

Appellants claim a method for inhibiting bacterial growth comprising combining an aqueous alkaline hop acid solution with yeast under aerobic conditions to form a mixture which is then fermented under anaerobic conditions (independent claim 2; *see also* remaining independent claim 14).

Representative claim 2 reads as follows:

2. An improved process for inhibiting bacterial growth in an aqueous process medium comprising adding a hop acid, characterized in, that the process comprises:

(a) dissolving the hop acid in an aqueous alkaline medium to form an aqueous alkaline hop acid solution;

(b) combining the aqueous alkaline hop acid solution with yeast in a yeast growing tank wherein yeast growing is allowed to proceed under aerobic conditions to form a yeast/aqueous alkaline hop acid mixture,

(c) continuously adding an effective amount of the aqueous alkaline hop acid solution, pre fermentation, to a fermentation process medium in a fermentation tank, wherein the pH of the aqueous alkaline hop acid solution is higher than the pH of the aqueous process medium; and

(d) introducing the yeast/aqueous alkaline hop acid mixture of step (b) into the fermentation process medium of step (c) and allowing for fermentation to occur under anaerobic conditions.

The Examiner provisionally rejects all appealed claims under the judicially created doctrine of obviousness-type double patenting as unpatentable over certain claims of application 11/473,533 and of application 10/361,976.

Because Appellants do not present any specific arguments against these rejections (App. Br. 16), we summarily affirm the rejections without further comment.

Under 35 U.S.C. § 103(a) the Examiner also rejects independent claims 2 and 14 as unpatentable over Todd 975 (US 5,082,975 issued Jan. 21, 1992) in view of Alcohol Distiller's Handbook (H. WILLKIE & J. PROCHASKA, ALCOHOL DISTILLER'S HANDBOOK 56 (Desert Publications 1980)), Righelato (R.C. Righelato et al., *Anaerobic Fermentation: Alcohol Production [and Discussion]*, 290 PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOC'Y OF LONDON, SERIES B, BIOLOGICAL SCI. 303 (1980)), and Richards (Oscar W. Richards & Florence W. Haynes, *Oxygen Consumption and Carbon Dioxide Production During the Growth of Yeast*, 7 PLANT PHYSIOLOGY 139 (1932)) and rejects the remaining (dependent) claims on appeal over these references alone or further in view of Simpson (W.J. Simpson, *Synergism Between Hop Resins and Phosphoric Acid and its Relevance to the Acid Washing of Yeast*, 93 J. INST. BREWING 405 (1987)) and Todd 683¹ (US 4,002,683 issued Jan. 11, 1977).

As an initial matter, we observe that Appellants do not present separate arguments directed to the dependent claims specifically including

¹ Both Appellants (*see* App. Br. 5) and the Examiner (*see* Ans. 4) have mistyped the number for this US patent as 4,002,863 when in fact it is 4,002,683.

the separately rejected dependent claims (App. Br. 6-16). Therefore, the dependent claims on appeal will stand or fall with their parent independent claims of which claim 2 is representative.

We will sustain the Examiner's § 103 rejections for the reasons expressed in the Answer and below.

The Examiner finds that Todd 975 (*see, e.g.*, col. 3, ll. 7-19 and Examples 5-6) discloses a process for inhibiting bacterial growth in the presence of yeast using an aqueous alkaline hop acid (*i.e.*, hexahydrolupulone) solution (Ans. 6-8). The Examiner concedes that Todd 975 does not teach practicing this process in a yeast growing tank under aerobic conditions but concludes that it would have been obvious to inhibit bacterial growth in the presence of yeast in a yeast growing tank specifically in view of Alcohol Distiller's Handbook under the aerobic conditions needed for yeast growing in view of Richards and then to introduce the resulting mixture into a fermentation process under the anaerobic conditions typical of fermentation in view of Righelato (*id.* at 8-10).

Appellants argue that the teachings of Todd 975 relate only to anaerobic conditions rather than the claimed aerobic conditions in a yeast growing step (App. Br. para. bridging 6-7).

Like the Examiner (Ans. 14), we find this argument unpersuasive. Contrary to Appellants' belief, the reference to fermentation in Example 6 of Todd 975 in no way restricts the teachings of this reference to fermentation only. Further, Appellants' belief is contraindicated by the Todd 975 disclosure of inhibiting bacterial growth in the presence of yeast generally (again, *see* col. 3, ll. 7-19) without restricting the inhibition to an anaerobic

fermentation step only. Finally, for the reasons detailed in the Answer, we fully share the Examiner's determination that the teachings of Alcohol Distiller's Handbook and Richards would have suggested practicing the inhibition process of Todd 975 in the aerobic conditions of a yeast growing step.

Appellants contend that the above argument is reinforced by the applied Simpson reference which is said to teach that hop resins are ineffective in controlling certain lactobacillus (App. Br. 7). According to Appellants, "one of ordinary skill in the art would at least find the contrary teachings of Simpson and Todd [975] to question any reasonable expectation of success for the Examiner's assertions, if not find an outright teaching away from Todd [975] by Simpson of the Examiner's assertion" (*id.*).

We are not persuaded by this contention because Appellants have failed to even allege much less show that the hop resins referred to by Simpson are analogous to the aqueous alkaline hop acid (i.e., hexahydrolupulone) solution of Todd 975.

In addition, Appellants seem to argue that Todd 975 discloses only a solution of hexahydrolupulone in water and glycerine rather than an aqueous alkaline solution as claimed (*id.* at para. bridging 6-7).

Such an argument lacks discernible merit. Todd 975 expressly discloses an aqueous alkaline solution (*see* Example 5; *see also* col. 8, ll. 14-16).

Finally, Appellants argue that any *prima facie* case of obviousness established by the Examiner is rebutted by the unexpected results shown in

the Declaration of record under 37 C.F.R. § 1.132 by Mr. Most (App. Br. 14-15).²

The results described in this Declaration are limited to a comparison of fermentation processes in which hop acids were either used or not used during pre-fermentation in a yeast propagation vessel (*see* paras. 5-8). The Declaration contains no discussion (or comparison) of the Todd 975 disclosure and concomitantly no discussion of whether the previously mentioned results would have been expected versus unexpected in light of this disclosure. Under these circumstances, the Declaration and Appellants' arguments relating thereto are uninformative with respect to the obviousness issue raised by the Examiner's § 103 rejections.

For the reasons given above and in the Answer, we sustain each of the Examiner's § 103 rejections.

The decision of the Examiner is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136.

AFFIRMED

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² In their Reply Brief but not their Appeal Brief, Appellants argue for the first time in this appeal that the Examiner erred in concluding that an isomerized hop acid limitation of certain appealed claims would have been obvious (Reply Br. 9). We will not consider this argument since Appellants have not provided a showing of good cause explaining why the argument could not have been presented in the Appeal Brief. *See Ex parte Borden*, 93 USPQ2d 1473, 1477 (BPAI 2010) (informative).

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